For this activity you will need:

1. Tennis ball
2. Meter stick
3. Masking tape
4. Calculator
5. Stool or chair.

Step 1:

With the meter stick measure 2.5 meters off the ground and mark the spot on the wall with the masking tape. This is your starting height each time you drop the ball.

Step 2 :

Drop the ball and approximate the maximum height that the ball reaches after the first bounce. Mark it with the masking tape.

Step 3:

Continue to drop the ball and record the maximum height the ball reaches after each additional bounce.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Bounce # | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Rebound Height | 2.5 m |  |  |  |  |  |  |

Step 4:

Enter the data into your calculator. Graph and sketch your scatterplot.

Step 5:

Write an equation of the form to represent the table of values that you generated.

Step 6:

Enter this equation into your calculator and graph your equation onto the scatter plot in your calculator.

a) Does this equation represent a good model for the data?

b) Where do they meet exactly?

c) Why do you think it meets some parts of the scatterplot better than others?